



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,627	12/22/2005	Mu-Hyeon Choe	428.1060	6450

20311            7590            09/11/2007  
LUCAS & MERCANTI, LLP  
475 PARK AVENUE SOUTH  
15TH FLOOR  
NEW YORK, NY 10016

EXAMINER	
KOSSON, ROSANNE	

ART UNIT	PAPER NUMBER
1652	

MAIL DATE	DELIVERY MODE
09/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



## UNITED STATES DEPARTMENT OF COMMERCE

## U.S. Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

10/562627

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
---------------------------------	-------------	---	---------------------

EXAMINER

ART UNIT      PAPER

20070905

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Applicants' election with traverse of Group I, claims 21(iii)(a), 27, 30 and 39, in the reply filed on August 23, 2007 is acknowledged. But, this response is incomplete and not fully responsive to the prior Office Action because of the following omission(s) or matter(s). Applicants did not elect one specific and definite monomer fusion protein that is the second half of the dimer, an election that is required for claims 31-36 to be examined. See the paragraph bridging pp. 3-4 of the previous Office action. As previously discussed, this second dimer half is one of the monomers that corresponds to one of groups 1-12 or the heterodimer containing the elected fusion protein of Group I and a different recombinant fusion protein, as recited in claim 32. As also previously discussed, the different inventions are drawn to a vast multitude of different proteins. The claim language is so complex, and the claim limitations are so numerous and interwoven, that the normal listing of all the claims in their different groups was not possible. Because the above-mentioned reply appears to be bona fide, Applicants are given ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this notice, whichever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosanne Kosson whose telephone number is 571-272-2923. The examiner can normally be reached on Monday-Friday, 8:30-6:00, alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rosanne Kosson, Examiner, Art Unit 1652

rk/2007-09-06

*Rosanne Kosson*

REBECCA E. DROUTY  
PRIMARY EXAMINER  
GROUP 1652  
T600

**UNITED STATES PATENT & TRADEMARK OFFICE**

Examiner: KOSSON, Rosanne      Art Unit: 1652

Re: Application of:      CHOE, Mu-Hyeon, *et al.*

Serial No.:      10/562,627

Filed:      December 22, 2005

For:      **THE DIMER OF CHIMERIC RECOMBINANT BINDING DOMAIN-FUNCTIONAL GROUP FUSION FORMED VIA DISULFIDE-BOND-BRIDGE AND THE PROCESSES FOR PRODUCING THE SAME**

Confirmation No.:      6450

**RESPONSE**Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

August 23, 2007

Sir:

Responsive to the Office Action dated May 23, 2007, the following remarks are made:

**A. Restriction Requirement**

In response to the restriction requirement, Applicants elect to further prosecute in this patent application Group 1, claims 21, 27, 30 and 39, drawn to a fusion protein monomer comprising a functional domain that is an enzyme, an extension peptide containing a C residue, and a binding domain. Applicants also elect a monomer of Group 1 for the second half of a dimer. This response is made with traverse and it is urged that the claims contained in Groups 1-12 be examined together. Reconsideration is respectfully requested.

The Examiner has taken the position that the present invention lacks unity of the invention, because there is no common technical feature distinguishable over Choe et al. (Cancer

Res. 54: 3460-3467, 1994). The Examiner has indicated that Choe et al. discloses a fusion protein containing a first domain that is a protein and a binding domain, either the light chain or the Fd fragment of monoclonal antibody B3, covalently linked to an extension peptide that is fused to a functional domain PE38.

The present invention provides a fusion protein containing a binding domain, an extension peptide having at least one uncoupled Cysteine and a functional domain, which is capable of forming a dimer through a disulfide bridge between two monomers.

Unlike the present invention, Choe et al. does not teach nor suggest fusion proteins containing an extension peptide which includes uncoupled Cysteine(s). C3 connector of Choe et al. corresponds to the extension peptide of the present invention. The C3 connector does not, however, contain uncoupled Cysteine(s). The amino acid sequence of the C3 connector is ASGGPE, and there is no Cysteine ("C") in the C3 connector. See Fig. 2(b) of Choe et al. The fusion protein of Choe et al. can not be dimerized by a disulfide bridge.

Furthermore, the Examiner has the discretion to prosecute all of the pending claims in a single patent application. In fact, "[I]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." (Emphasis added; Manual of Patent Examining Procedure, § 803, second paragraph). Accordingly, Applicants urge that there would not be an undue burden upon the Examiner to search and consider Groups 1-12 at the same time.

Additionally, Applicants believe that claims 24-26 should be examined with the elected group 1. Dependent claims 24-26 refer back to claim 21 of the elected group.

Thus, for all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw the present Restriction Requirement.

B. Election of Species

In response to the requirement of election of species, Applicants elect to further prosecute in this case the species "(a)" from the peptides listed in (iii) of claim 21 in the event that no generic claim is finally held allowable. It is believed that claims 21, 27, 30, 31-36, 39 and 40 currently read on the elected species. In the event that claims 24-26 directed to the non-elected groups are examined together, it is believed that claims 24-26 are also readable on the elected species. Concerning claim 26, Applicants elect "2" as "n", "S" at position 2 and "K" at position

*and that there are not species-  
such is a separate invention - sep -> distinct structure  
claiming sep -> distinct such & exam.*

4.

This response to the requirement of the election of species is also made with traverse. Reconsideration is therefore respectfully requested. It is believed that the differences of species is not such as to require separate examinations. Accordingly, it is urged that, in the interest of efficiency in prosecution, all the species be examined together.

FEES

This response is being filed with a petition for a two-month extension of time and the required fee via credit card authorization. No further fees are believed to be required. If, on the other hand, it is determined that further fees are necessary or any overpayment has been made, the Commissioner is hereby authorized to debit or credit such sum to Deposit Account No. 02-2275.

Pursuant to 37 CFR 1.136(a)(3), please treat this and any concurrent or future reply in this application that requires a petition for an extension of time for its timely submission as incorporating a petition for extension of time for the appropriate length of time. The fee associated therewith is to be charged to the above-mentioned deposit account.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

LUCAS & MERCANTI, LLP

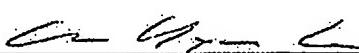
By:

  
Hyun Soon Cho  
Recognition No. L0306

LUCAS & MERCANTI, LLP  
475 Park Avenue South  
New York, New York 10016  
Tel: 212-661-8000

CERTIFICATE OF ELECTRONIC TRANSMISSION  
I hereby certify that this document is being electronically transmitted to the Commissioner for Patents via EFS-Web on August 23, 2007.

LUCAS & MERCANTI, LLP

BY:   
Hyun Soon Cho